1135-11-269 **Richard Moy*** (rmoy@willamette.edu), Willamette University, Department of Mathematics, 900 State Street, Salem, OR 97301, and **Michael Filaseta** (filaseta@mailbox.sc.edu), Department of Mathematics, University of South Carolina, Columbia, SC 29208. *On the Galois group over $\mathbb{Q}$ of a truncated binomial expansion.*

The polynomial $p_{r,t}(x) = \sum_{j=0}^{r} \binom{t+j}{j} x^j$ is the normalized t^{th} derivative of $1 + x + \cdots + x^{r+t}$. This polynomial family has appeared in investigations of the Schubert calculus of Grassmannians as well as the Belyi maps of various families of dessin d'enfant. It was previously shown that for fixed r, the polynomial $p_{r,t}(x)$ is irreducible for all but finitely many t. Using the theory of Newton polygons and Pell equations, we show that for $r \neq 6$, $p_{r,t}(x)$ has Galois group S_r for all but finitely many t. When $r = 6$, we show there are $O(\log(T))$ values of $t \leq T$ for which the Galois group of $p_{6,t}$ is $PGL_2(5)$ instead of S_6. (Received August 16, 2017)